



Federal Communications Commission  
Washington, D.C. 20554

DA 07-3616

August 14, 2007

Keith H. Fagan  
Telenor Satellite, Inc.  
1101 Wootton Parkway  
10th Floor  
Rockville, MD 20852

Re: Call Sign KB34  
File No. SES-MFS-20070514-00640

Dear Mr. Fagan:

On May 14, 2007, Telenor Satellite, Inc. (Telenor) filed the above-captioned application to modify the license for earth station KB34 located in Santa Paula, CA. In the modification application, Telenor seeks authority to add a 10.4-meter C-band antenna (ID SAPA 13) and a 1.8 meter L-band antenna (ID SAPA 13A) to communicate with the United Kingdom's Inmarsat 3F4 satellite at the 142° W.L. orbital location. For the reasons stated below, we dismiss the application as defective without prejudice to refiling.

Section 25.112 of the Commission's rules, 47 C.F.R. § 25.112, requires the Commission to return, as unacceptable for filing, any earth station application that is not substantially complete, contains internal inconsistencies, or does not substantially comply with the Commission's rules. Telenor's application contains several omissions and discrepancies that render it unacceptable and subject to dismissal. These deficiencies are as follows:

(1) Telenor proposes to add a 10.4-meter C-band antenna and a 1.8 meter L-band antenna. Question 28 of Form 312 indicates that a radiation hazard study must accompany all applications as an exhibit for new transmitting facilities or major modifications such as the one proposed.<sup>1</sup> However, Telenor's application did not include this required exhibit;

(2) In response to item E18 of Schedule B, Telenor indicates that frequency coordination is required, but did not attach a frequency coordination report as required pursuant to Section 25.203(c) of the Commission's rules;<sup>2</sup>

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<sup>1</sup> 47 C.F.R. § 1.1307(b).

<sup>2</sup> Although Telenor has previously submitted a frequency coordination report for its existing 10.4-meter earth station, it proposes to operate an additional 10.4-meter earth station at EIRP and EIRP density levels higher than it had previously coordinated. Therefore, Telenor must submit a new frequency coordination report pursuant to the Section 25.203(c) of the Commission's rules.

(3) With respect to its proposed L-band antenna, Telenor does not include the antenna transmit gain as required by item E41 of Schedule B, the total input power at the antenna flange as required by item E38 of Schedule B, and the total EIRP for all carriers as required by item E40 of Schedule B;

(4) In response to items E43/E44 of Schedule B, Telenor indicates that it seeks to transmit in the 6424-6454 MHz band. This is inconsistent with the frequency band listed in Schedule S, which indicates that the frequency band used by the Inmarsat-3F4 satellite is 6425-6454 MHz. Thus, we cannot determine the exact bands in which the earth station will operate;

(5) In response to items E43/E44 of Schedule B, Telenor states that it seeks to transmit in the 6454.4-6454.6 MHz and 6424-6454 MHz bands, and to receive in the 3600-3629 MHz, 3629-3629 MHz, 1525-1559 MHz, and 1574.4-1576.6 MHz bands. This is inconsistent with the frequency bands listed in Attachment A, Technical Description, which indicates that the frequency bands used by the Inmarsat-3F4 satellite are 6454.397-6456.443 MHz, 3629.4-3631.443 MHz, and 1574.4-1576.443 MHz. Thus, we cannot determine the exact bands in which the earth station will operate;

(6) In Attachment A, Technical Description, to the application, Telenor states that the L-band antenna will use Right Hand Circular (RHC) polarization for both uplink and downlink transmissions. However, in response to item E46 of Schedule B, Telenor indicates that the polarization of the L band antenna is both left and right circular;

(7) Telenor does not provide a response for either the transmitting or the receiving frequencies, as required by items E51 through E60 of Schedule B;

Although not grounds for dismissal, we ask Telenor to address the following items in any refiling:

(1) Telenor's application indicates that the Santa Paula earth station is currently licensed to access an Inmarsat satellite at the 178° E.L. orbital location as a point of communication. In another pending earth station application,<sup>3</sup> however, Telenor indicates that the same Inmarsat satellite is located at 178.1° E.L. If Telenor plans to use the Santa Paula earth station to communicate with this satellite at the 178.1° E.L. orbit location using the Santa Paula earth station, it must file a modification application to do so. This modification request must also either include the information required under Sections 25.137 and Section 25.114 of the Commission's rules, or reference a pending application that provides this information;

(2) In Attachment A, Technical Description, to the application, Telenor states that on-station TT&C signals between the Inmarsat-3F4 satellite and TT&C earth stations will be in the 3945-3955 MHz downlink band and the 6338 - 6342 MHz uplink band. Telenor also states that the TT&C facilities for the Inmarsat-3 satellites are located in Italy, China (Beijing) and Canada. In any refiling, please provide the location and telephone number of the TT&C control point(s) in item S14 of Schedule S. In addition, it appears that none of the TT&C earth stations that are used to communicate with the Inmarsat-3F4 satellite will be located in the United States. If this is the case, we request that Telenor delete all the frequency bands and emissions requested for TT&C operations in items E43 through E50 of Schedule B;

(3) Operations in the L-Band are subject to certain requirements concerning real-time priority and preemptive access for distress and safety messages.<sup>4</sup> For the Lower L-Band, Footnotes 5.353A to the

<sup>3</sup> See IBFS File No. SES-LIC-20070416-00479

<sup>4</sup> See ITU Radio Regulation 5.353A, 5.357A, and 5.362A; 47 C.F.R. § 2.106, footnotes US308 and US315, and §§ 25.136(d)-(e).

International Table of Allocations and Footnote US315 to the United States Table of Allocations state that MSS systems may not interfere with maritime mobile-satellite service (MMSS) distress and safety communications that also operate in these frequencies, such as Global Maritime Distress Satellite Service (GMDSS). These requirements have been also incorporated in Section 25.136(e) of the Commission's rules.<sup>5</sup> For the upper L-Band, Footnotes 5.357A and 5.362A to the International Table of Allocations and US308 to the United States Table of Allocations state that MSS systems may not interfere with aeronautical mobile-satellite (R) service (AMS(R)S) distress and safety communications that also operate in these frequencies. Telenor does not provide adequate information to demonstrate that it meets these non-interference requirements. Telenor must supply this information in any refiling;

(4) The 1544-1545 and 1645.5-1646.5 MHz bands are limited to safety and distress communications in the mobile-satellite service (MSS) in accordance with Footnotes 5.356 and 5.365 of the Table of Frequency Allocations, 47 C.F.R. § 2.106. In any refiling, we request that Telenor exclude the 1544-1545 and 1645.5-1646.5 MHz bands in items E43/44 and E52/53 of Schedule B if it does not seek authority to provide MSS safety and distress communications in these bands;

(5) On page 1 of Attachment A to the application, Telenor states that the Inmarsat 3F4 satellite will provide MSS to terminals using the 1525 - 1559 MHz band for space-to-Earth transmissions and the 1626.5-1660.5 MHz band for Earth-to-space transmissions. We request Telenor to update item S2e for the 1525-1559 MHz band to reflect a "T" rather than an "R" and for the 1626.5-1660.5 MHz band to reflect an "R" rather than a "T." Similar changes are necessary in item S9d of Schedule S as well;

(6) In response to item E47 of Schedule B, Telenor lists 2K40G1D, 132KG7D, 24K0G1W, 2K40G7D, 5K60G1W, 24K0G1E, 5K60G1E, NON, 40K0G1W, 400KG1F, 34K0F3E, 27K0F3W, and 131KG2D as the emissions for the 10.4-meter C-band and the 1.8 meter L-band antennas. In contrast, in response to item S11 of Schedule S, Telenor lists the emissions operated by the Inmarsat3F4 as 20K0G1E, 100KG1X, 20K0G1X and 10K0G1X.<sup>6</sup> In any refiling, Telenor should verify that these are the correct emissions;

(7) Further clarification of the orbital debris mitigation plans for the Inmarsat 3F4 satellite is necessary before the Commission can determine that operations via the satellite will serve the public interest.<sup>7</sup> In Attachment A, Technical Description, to the application, Telenor indicates that, at end of life, the spacecraft will be maneuvered to a disposal orbit with a minimum perigee height of 194 km above the normal GSO operational orbit. In addition, Telenor states that, "[u]pon reaching the final disposal orbit, all fuel tanks will be close to empty. All remaining propellants will be vented where possible regarding the requirement for stability of the final orbit minimum perigee height."

It appears from this disclosure that not all remaining propellants will be vented at end of life. Please provide any further information to justify this course of action, such as a more detailed explanation of the energy that would be imparted from full venting and its effects on the orbit of the satellite upon

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<sup>5</sup> *In the Matter of Establishing Rules and Policies for the Use of Spectrum for Mobile Satellite Service in the Upper and Lower L-band*, Report and Order, 17 FCC Rcd 2704 (2002) (*Lower L-band Report and Order*).

<sup>6</sup> According to Section 2.201 of the Commission's rules, the third symbol D of an emission denotes as Data transmission, telemetry, telecommand. The third symbol E of an emission denotes as Telephony (including sound broadcasting) and the third symbol X of an emission denotes as Cases not otherwise covered, extra.

<sup>7</sup> See 47 C.F.R. § 25.111(a).

cessation of all disposal and decommissioning operations. In particular, we seek information on what the minimum perigee disposal altitude would be if all remaining propellants were vented at end of life. Additionally, we ask Telenor to explain why Inmarsat's requirement for the stability of the final orbit minimum perigee height does not permit the venting of all remaining propellants at the end of life of the spacecraft, given the Commission's finding that prevention of accidental explosions during and after mission operations may constitute the single most important debris mitigation measure.<sup>8</sup> In short, we seek clarification of why the public interest would be better served by the proposed plan, given the possible risk of an accidental explosion resulting from not fully venting residual fuel, and why a stable orbit cannot be maintained consistent with full venting.<sup>9</sup>

Accordingly, pursuant to Section 25.112(a)(1) of the Commission's rules, 47 C.F.R. §25.112(a)(1), and Section 0.261 of the Commission's rules on delegations of authority, 47 C.F.R. §0.261, we dismiss above-captioned application without prejudice to refiling.<sup>10</sup>

Sincerely,

Scott A. Kotler  
Chief, Systems Analysis Branch  
Satellite Division  
International Bureau

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<sup>8</sup> See Mitigation of Orbital Debris, *Second Report and Order*, IB Docket No. 02-54, 19 FCC Rcd 11567, 11580 (para. 29) (2004) (*Second Report and Order*). We also note that Section 25.283(c) of the Commission's rules sets forth a requirement to vent fuel, relieve pressure vessels, and discharge batteries at the spacecraft's end of life. Specifically, this section provides that "[u]pon completion of any relocation authorized by paragraph (b) of this section, or any relocation at end-of-life specified in an authorization, or upon a spacecraft otherwise completing its authorized mission, a space station licensee shall ensure, unless prevented by technical failures beyond its control, that all stored energy sources on board the satellite are discharged, by venting excess propellant, discharging batteries, relieving pressure vessels, and other appropriate measures." 47 C.F.R. § 25.283(c).

<sup>9</sup> The Commission has noted that it may, in some instances, be preferable even to dispose of a spacecraft in the GEO region rather than risk an accidental explosion, since the consequences of an explosive fragmentation "considerably outweigh" the future collision risks. See *Second Report and Order*, 19 FCC Rcd at 11601 n.210.

<sup>10</sup> If Telenor refiles an application identical to the one dismissed, with the exception of supplying the corrected information, it need not pay an application fee. See 47 C.F.R. Section 1.1109(d).